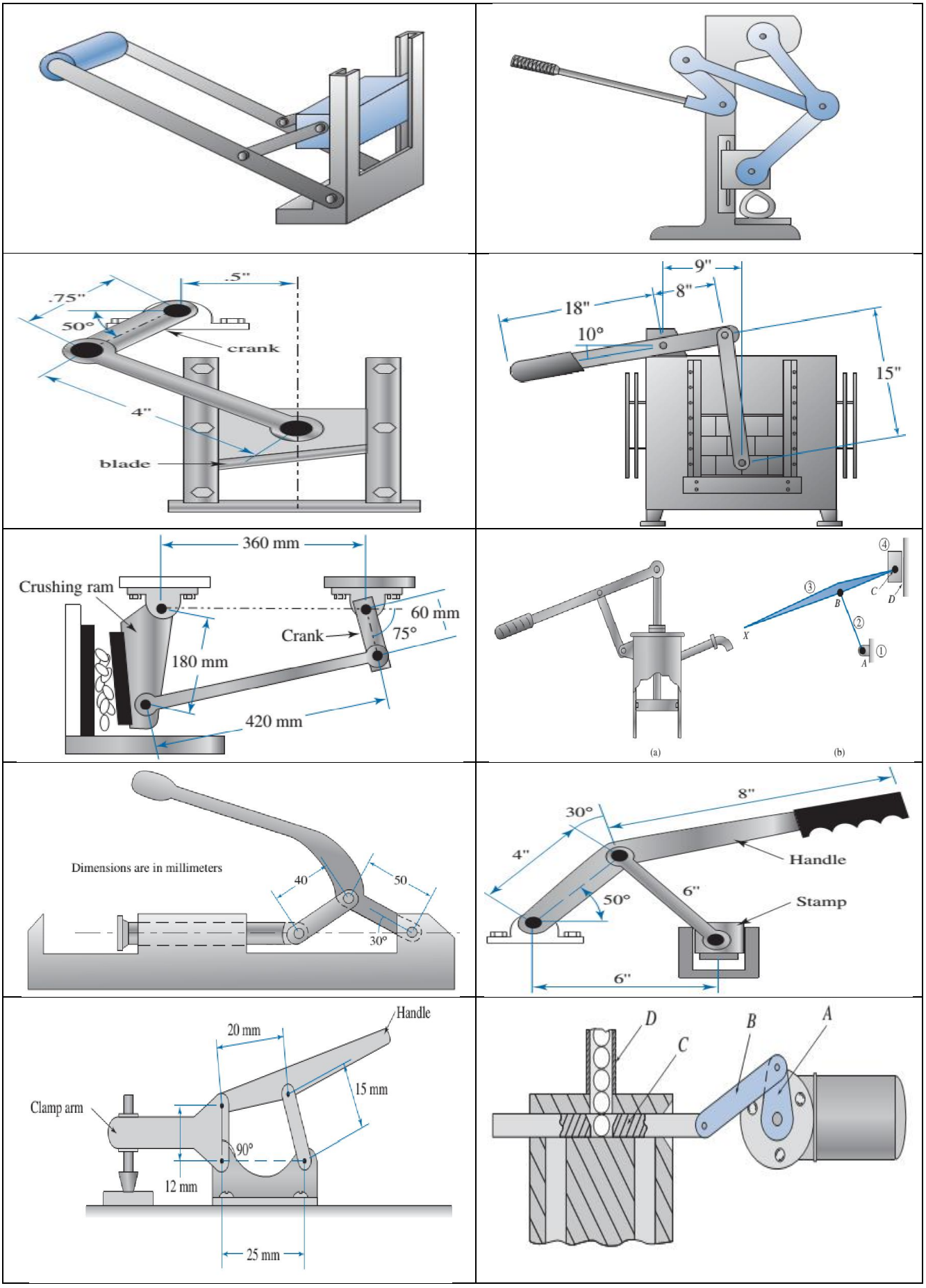
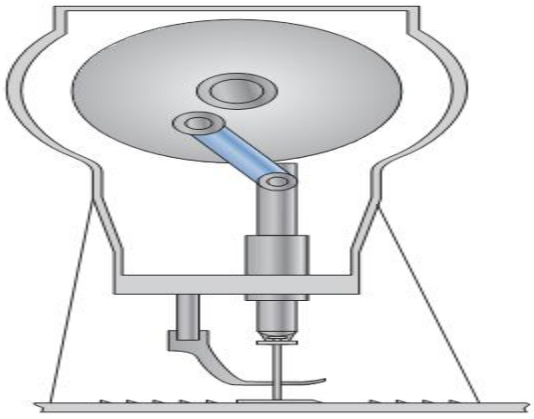
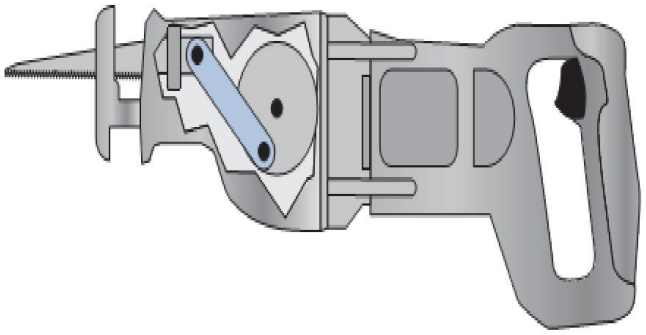
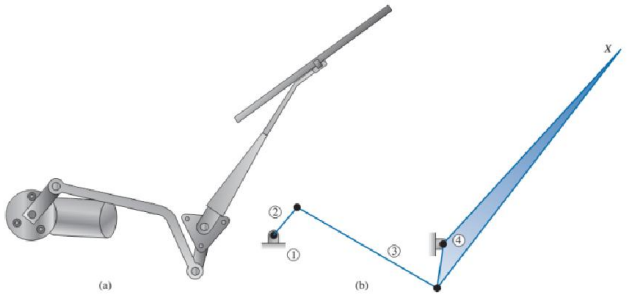
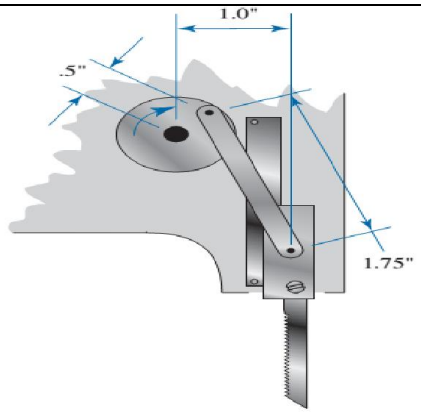
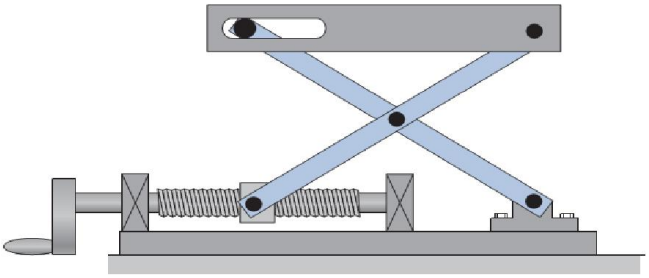

.5"
.75"
50°
crank
4"
blade
9"
8"
18"
10°
15"
360 mm
Crushing ram
60 mm
Crank
75°
180 mm
420 mm
(a)
(b)
Dimensions are in millimeters
40
50
30°
8"
30°
4"
Handle
50°
6"
Stamp
6"
Handle
20 mm
15 mm
Clamp arm
90°
12 mm
25 mm
D
C
B
A

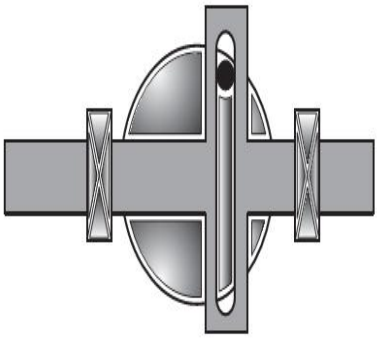




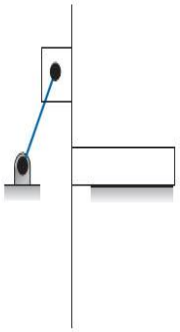




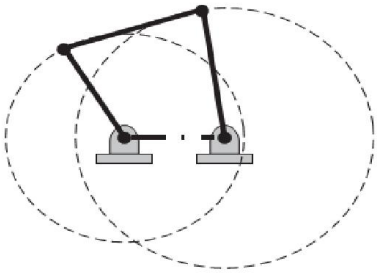




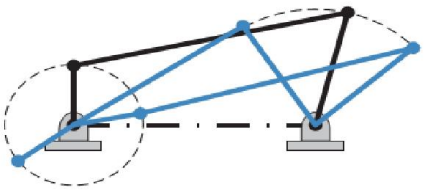
(a) Actual mechanism



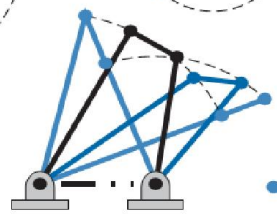
(b) Kinematic diagram



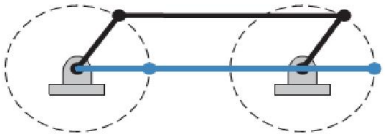
(a) Double crank



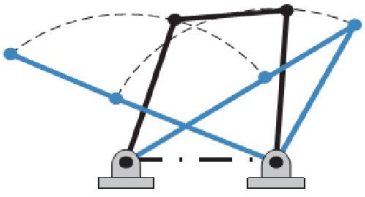
(b) Crank-rocker



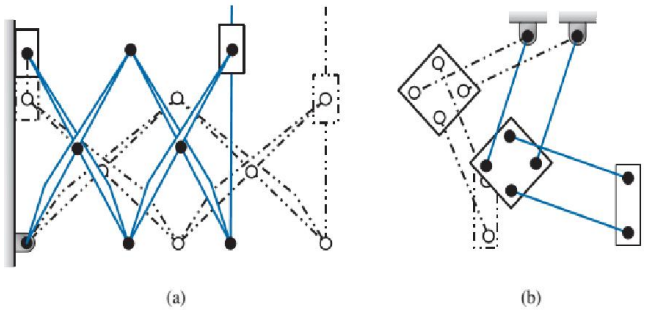
(c) Double rocker



(d) Change point

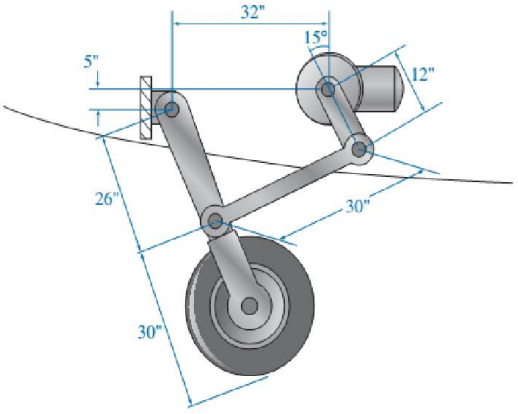


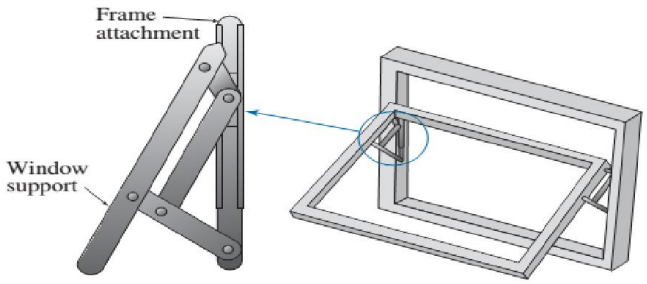
(e) Triple rocker

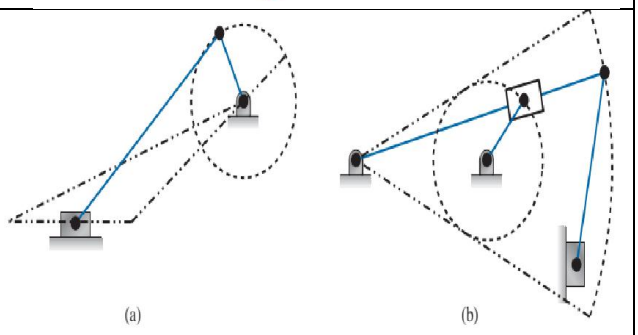


(a) (b)

FIGURE 1.39 Parallelogram mechanisms.

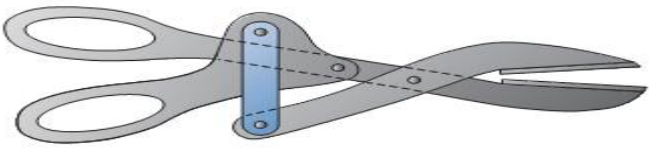


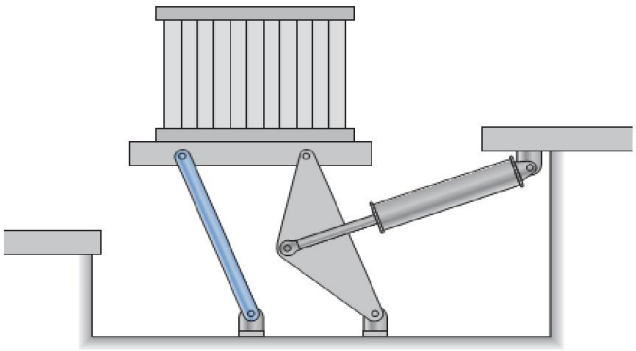


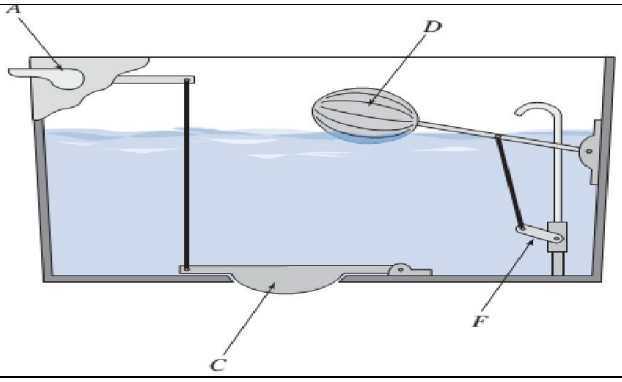


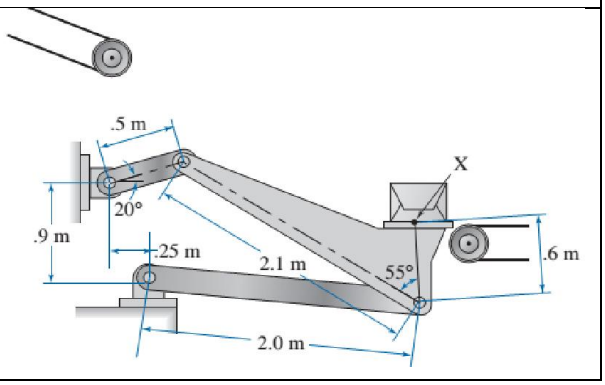
(a) (b)

FIGURE 1.40 Quick-return mechanisms.









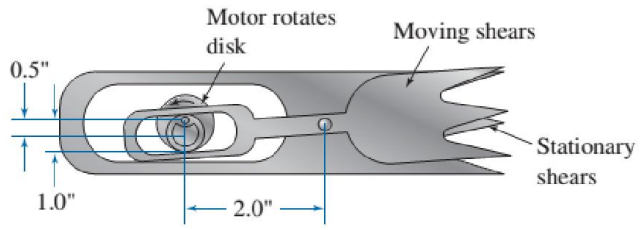
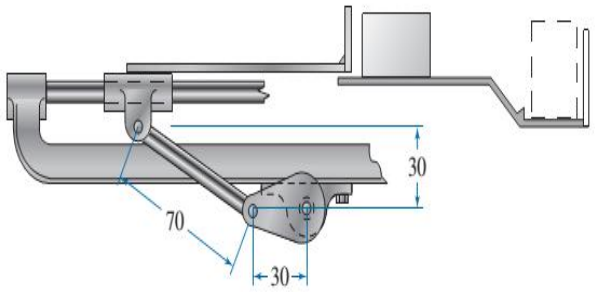
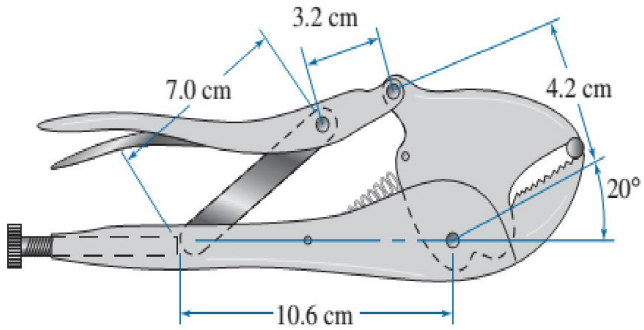
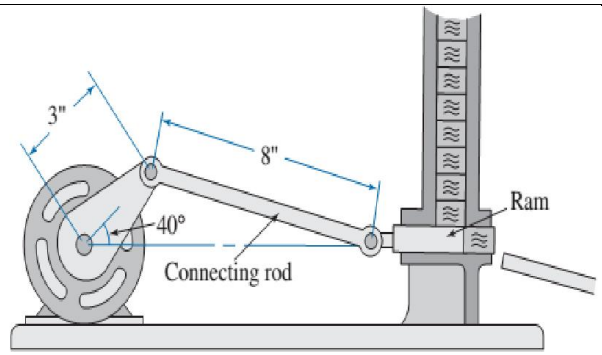
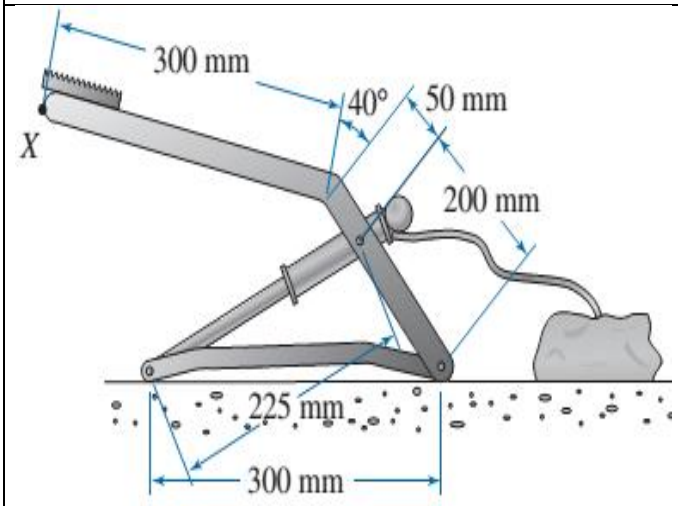


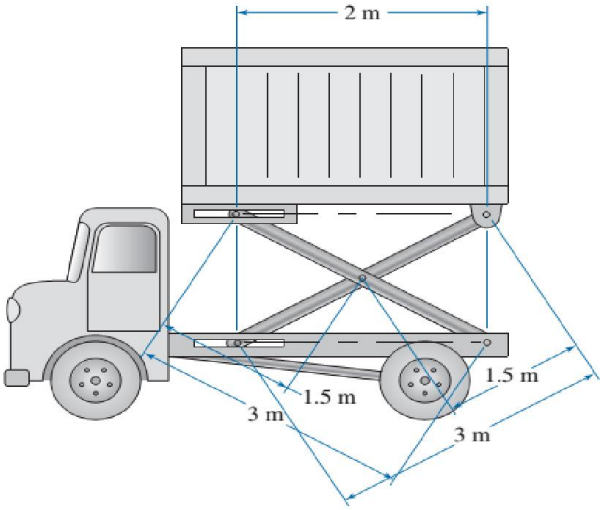
FIGURE 4.33 Grass shears for Example Problem 4.9.

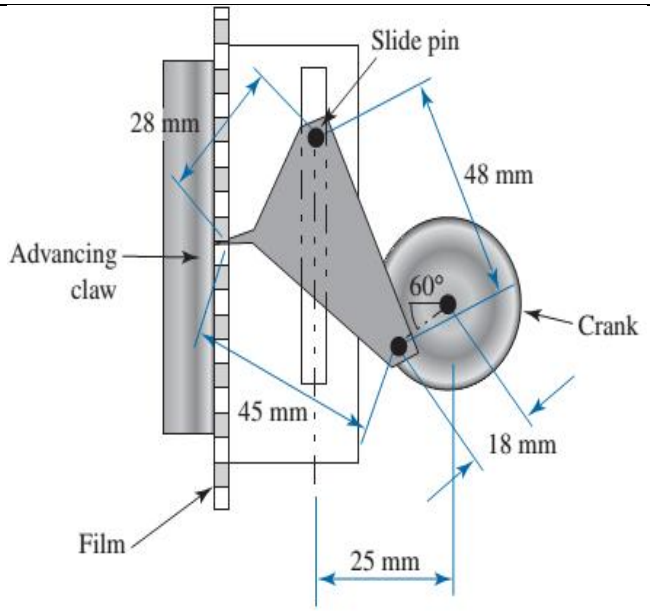


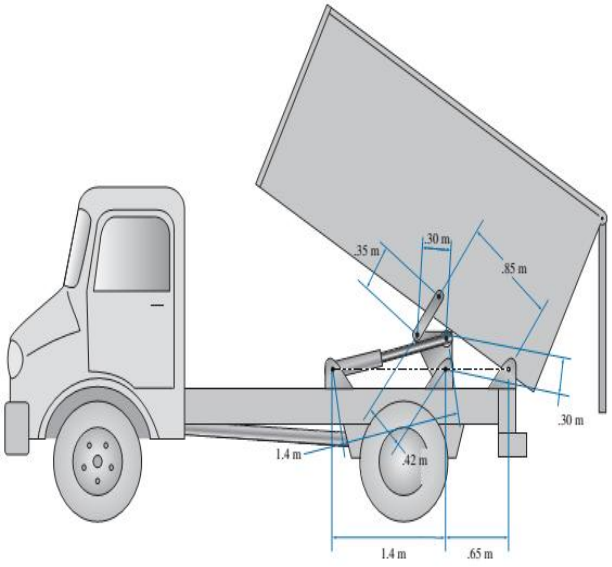


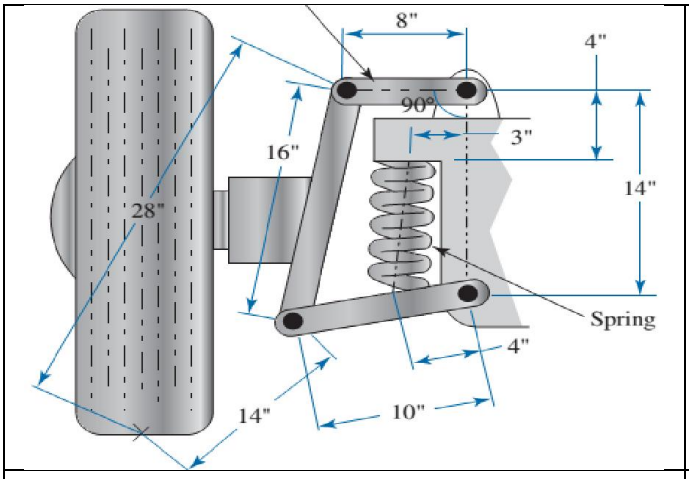


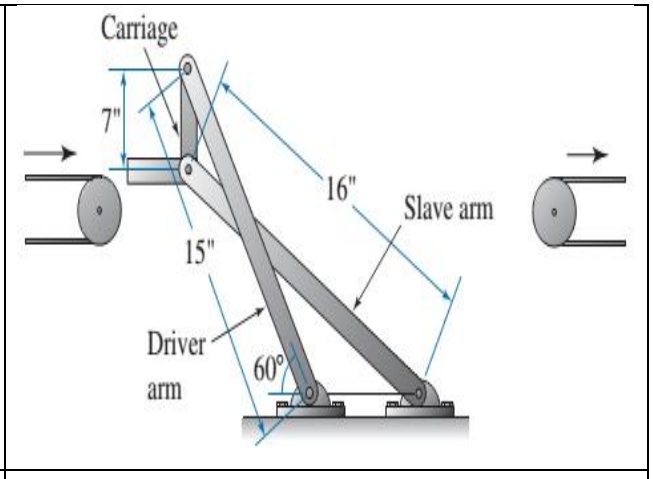


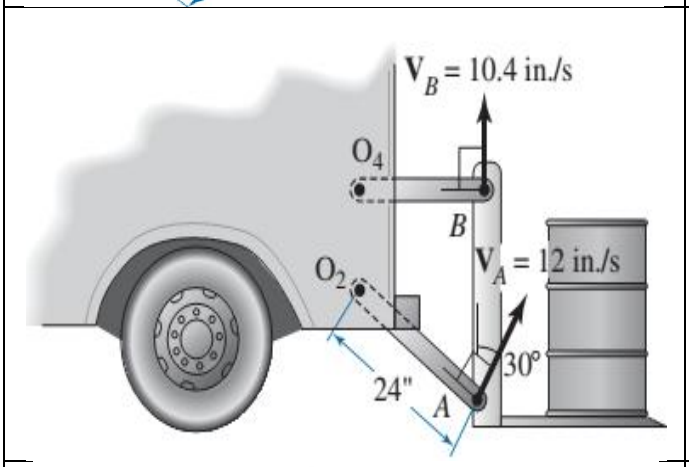


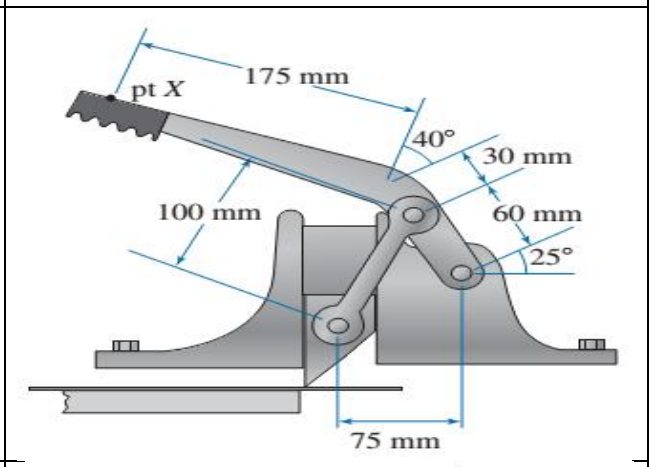


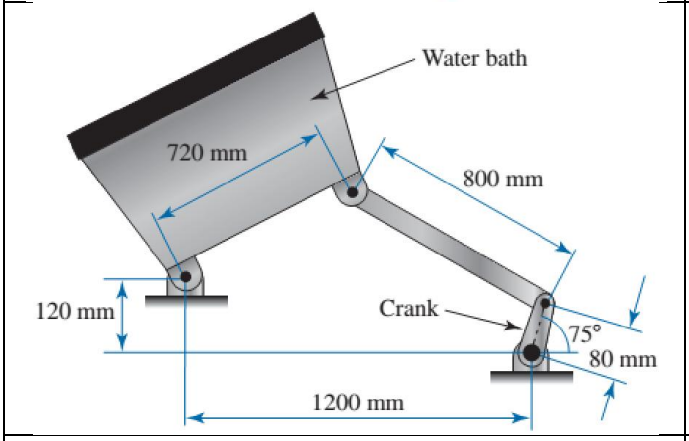


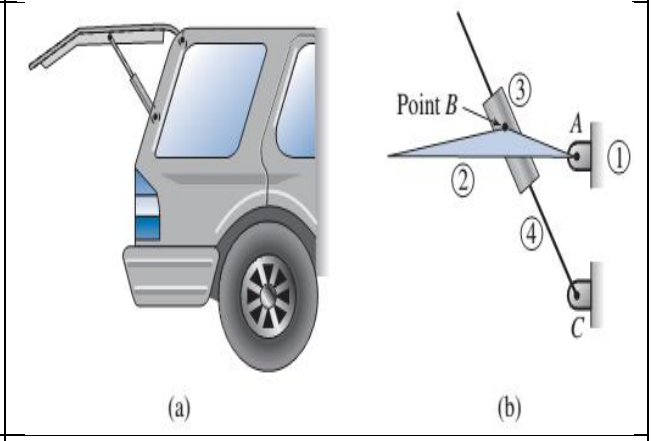

8"
4"
90°
3"
16"
28"
14"
Spring
4"
14"
10"

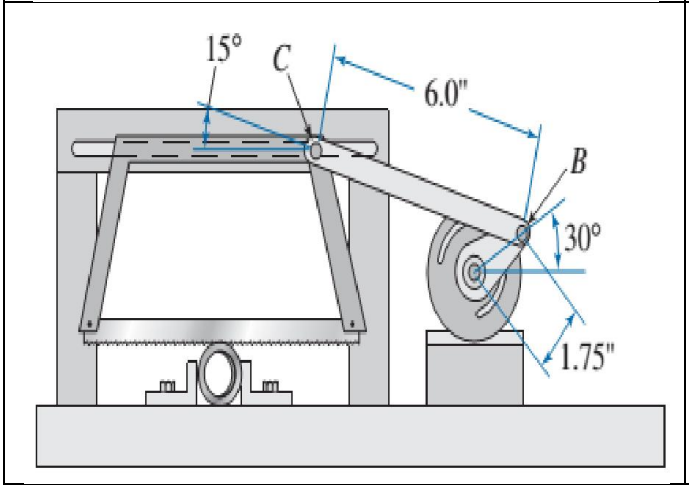

Carriage
7"
16"
Slave arm
15"
Driver
arm
60°

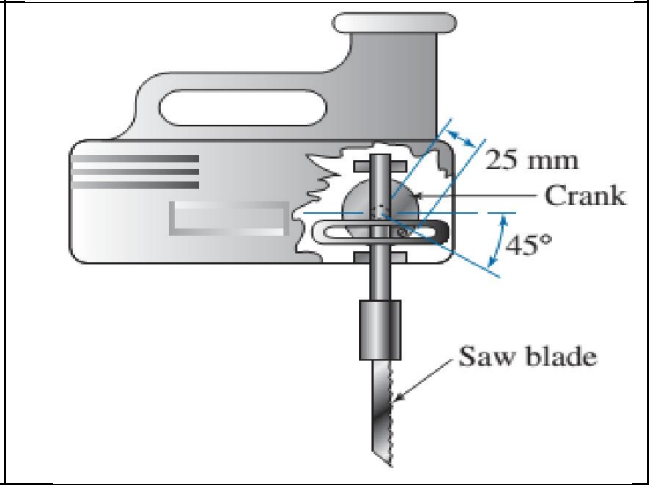

V_B = 10.4 in./s
O_4
B
O_2
V_A = 12 in./s
30°
24"
A

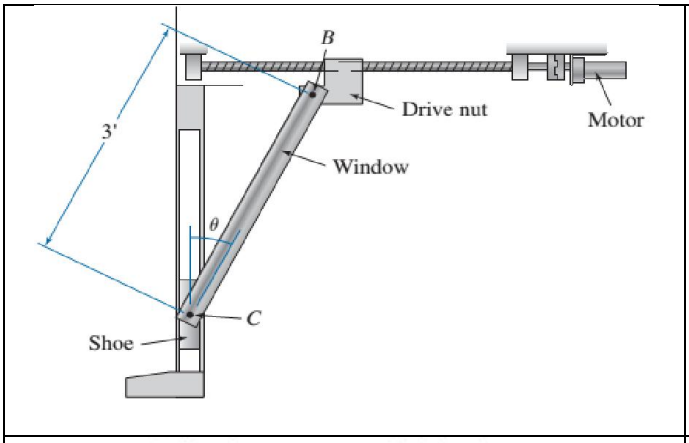

175 mm
pt X
40°
30 mm
100 mm
60 mm
25°
75 mm

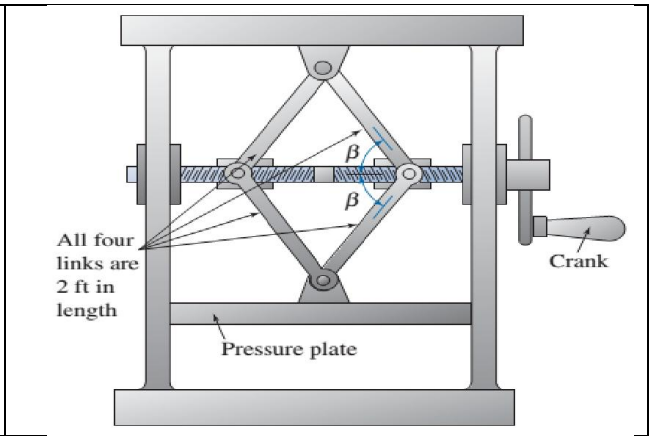

Water bath
720 mm
800 mm
120 mm
Crank
75°
80 mm
1200 mm

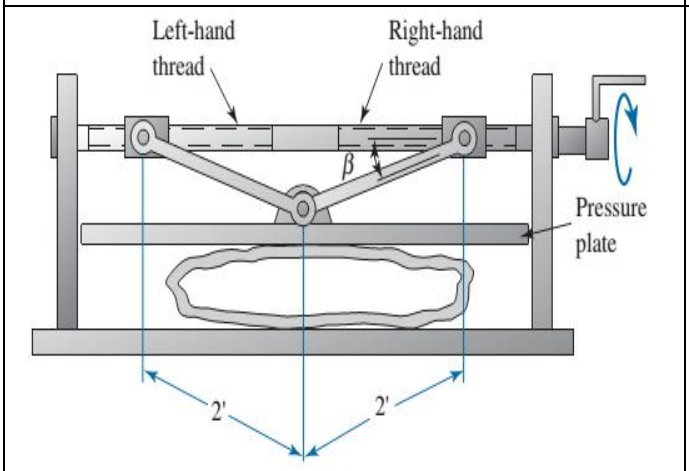

Point B
A
C
(a)
(b)

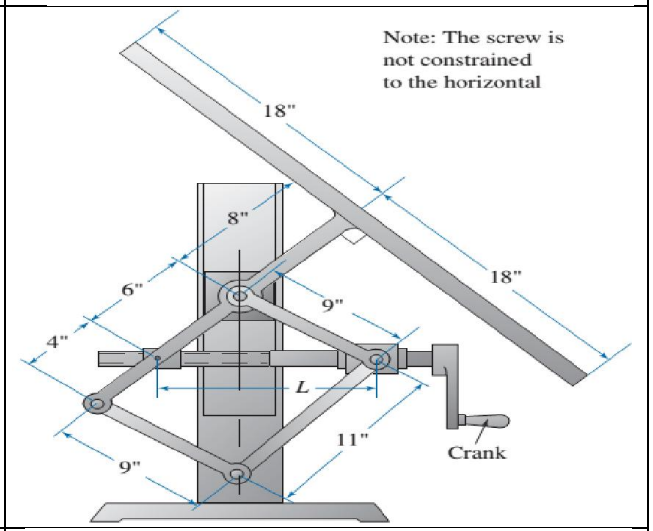

15°
C
6.0"
B
30°
1.75"

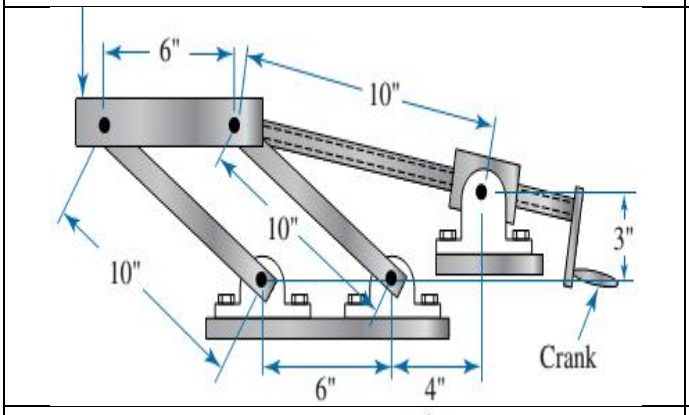

25 mm
Crank
45°
Saw blade

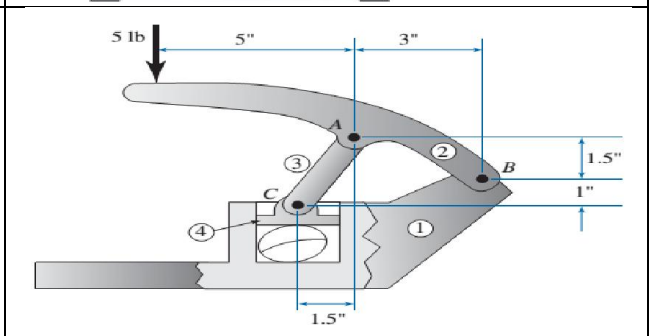

B
Drive nut
Motor
3'
Window
θ
C
Shoe

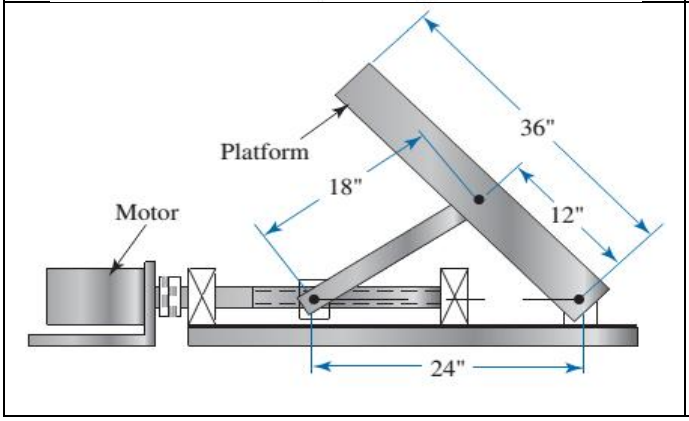

β
β
All four links are 2 ft in length
Crank
Pressure plate

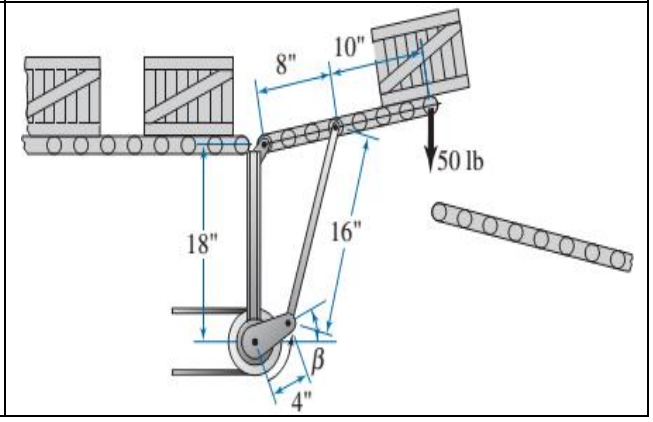

Left-hand thread
Right-hand thread
β
Pressure plate
2'
2'


Note: The screw is not constrained to the horizontal
18"
8"
18"
6"
9"
4"
L
11"
Crank
9"


6"
10"
10"
10"
3"
Crank
6"
4"


5 lb
5"
3"
A
2
3
B
1.5"
1"
C
4
1
1.5"


Platform
36"
18"
12"
Motor
24"


8"
10"
50 lb
18"
16"
β
4"